Before the Federal Communications Commission Washington, D.C. May 28, 2004 In the Matter of IP-Enabled Services Notice of Proposed Rulemaking FCC 04-28 WC Docket No. 04-36	Comments filed by: The Computing Technology Industry Association (CompTIA) 4350 N. Fairfax Drive Arlington, VA 22203 www.CompTIA.org

Public Comments: Submitted by the Computing Technology Industry Association (CompTIA) in response to the Federal Communications Commission's Notice of Proposed Rule Making (NPRM) adopted February 12, 2004, in the matter of *"IP-Enabled Services"* (WC Docket 04-36).

CompTIA is a twenty-two year old, global trade association representing the business interests of the information technology and communications industries. (More information is available at http://www.comptia.org.) For inquires regarding these comments, please contact: Thomas E. Santaniello, Public Policy Manager, CompTIA Global Public Policy Headquarters, 4350 N. Fairfax Drive Suite 440, Arlington, VA 22203, Telephone 703.812.1333, ext. 204, Fax 703.813.1337, or email: Tsantaniello@CompTIA.org.

Information Technology and Telecommunications Convergence:

Convergence is not a new concept, but in today's information technology (IT) and communications environment, it certainly has taken on new meaning. In the 1960s, the Commission faced the problem of "convergence." (*Computer I Notice of Inquiry*, *supra* note 9, para. 13). At the time, the Commission was looking at mainframe computers running over

private or legacy networks. The Commission was for the most part deciding how to deal with an encounter between the IT and telecommunications domains. The consequence of the Commission's action had little direct impact on most consumers.

Today, convergence means something very different. Years ago, most consumers viewed personal computers (PCs) as mere word processors or glorified typewriters. Today's consumers regard their PC dramatically different.

Driven by the adoption of innovative IP protocols, ubiquitous local and wide area networks, and computer processing capability, PCs are as much a tool for "communicating" as a tool for computing. Whether it is email, web-casting, online collaboration or chat rooms, we have grown accustom to computer-communications.

For example, email today has significantly replaced first class postal service and facsimiles for consumer and business users alike. In fact, 84% of those online use email regularly (Pew Foundation, May 2003). The U.S Postal Service has lost business over the past years, much of it is due to a switch from paper mail to email. Studies show that about 10 million emails are sent per day, not even counting spam, and those numbers are expected to rise substantially in the next few years (http://www.shortnews.com/shownews.cfm?id=5192).

CompTIA defines "convergent technology" (CT) as IT and telecommunications services intertwined as one technology, providing the end user with functionality characteristic of both sectors. More specifically, CT is the merging of voice, video, and data on a network, integrating telecommunications and computer technology in a way that opens powerful new avenues of communication. It represents the intersection of telephone, computer, wireless, cable, and Internet networks. Spawned out of a highly competitive industry, CT has enriched the telecommunications industry with its wealth of applications designed to serve the consumer.

CT is broadly applicable and rapidly evolving. CT can span different layers, including hardware, software, platform, application, and service layers. Additionally, convergence is occurring at various levels within the IT distribution channel. From providers of backbone network services

to providers of customer interface services, today's markets offer hybrid services. Examples of convergence at the network layer are companies that at onetime only provided data, but today may also offer or resell voice as well, via traditional circuit switch or voice over Internet protocol (VOIP). At the customer premise layer, there are continually new hybrid services such as personal digital assistant devices capably of voice, and data, or traditional fixed PC applications capable of voice, data, and video.

CT is a boon for our quality of life from both a personal and business standpoint. However, this technology development has also created significant public policy challenges. One could describe the challenge as two worlds colliding. The world of IT has historically been characterized by little regulation, low barriers of entry and vibrant competitors. Juxtaposed is the telecommunications industry, which has been heavily regulated for over a century, with very high barriers of entry, and which lends itself toward a natural monopoly structure.

The current NPRM is titled "IP-Enabled Services" but has evolved more toward a debate about VOIP. We take this opportunity to point out that the Commission's broader description of IP-enabled services, implying all IP-enabled applications and services, is more appropriate, because VOIP is only one category of applications. CompTIA is concerned about the potential that any IP-enabled application could be subject to regulation. VOIP is just one of many policy issues "CT" has brought to the forefront of debate. VOIP is simply another communications application offering end users "voice" capability and greatly expanding the functionality and features of the PC.

The Commission should consider the prospect that decisions made with regard to VOIP could eventually apply to Internet applications on a broader scale, and as such begin regulations of the Internet.

Growth of the Internet through Regulatory Restraint:

Restraining from regulating the Internet has served America well. The creativity and innovation of the marketplace has been dynamic and bursting at the seams with entrepreneurial spirit.

Consumers are enjoying more choices, better value, and more personalized products. There is little compelling evidence that regulation of these vibrant and nascent CT services is warranted.

It sometimes is hard to believe that original networking of the Internet was limited to a few systems, including the university system that linked terminals with time-sharing computers, early business systems for applications such as airline reservations, and the Department of Defense's ARPANET.

Begun by the Defense Advanced Research Projects Agency (DARPA) in 1969 as an experiment in resource-sharing, ARPANET provided powerful (high-bandwidth) communications links between major computational resources and computer users in academic, industrial, and government research laboratories.

By 1992, over 6,000 networks were connected, one-third of them outside the United States. In March 1991, the Internet was transferring 1.3 trillion bytes of information per month. By the end of 1994, it was transmitting 17.8 trillion bytes per month, the equivalent of electronically moving the entire contents of the Library of Congress every four months. (www.NSF.gov)

In the February 2002, Department of Commerce report, *A Nation Online: How Americans Are Expanding Their Use of the Internet,* shows the rapidly growing use of new information technologies across all demographic groups and geographic regions:

> *"Not only are many more Americans using the Internet and computers at home, they are also using them at work, school, and other locations for an expanding variety of purposes. In the last few years, Americans' use of the Internet and computers has grown substantially. The rate of growth of Internet use in the United States is currently two million new Internet users per month. More than half of the nation is now online."*

In September 2001, 143 million Americans (about 54 percent of the population) were using the Internet — an increase of 26 million in thirteen months. In September 2001, 174 million people

(or 66 percent of the population) in the United States used computers. Internet use is increasing for people regardless of income, education, age, race, ethnicity, or gender (*ibid).*

Federal policymakers have been very reluctant to regulate the Internet, dating back to the beginnings of wide commercial adoption of this technology. Keeping the "camel's nose out of the tent" was a clear policy objective from the very beginning.

Dating back to deliberations of the landmark "Telecommunications Act of 1996," policymakers were clear about the need to allow a nascent technology to develop; and that premature regulation would thwart market driven growth. "The purposes of the bill are to revise the Communications Act of 1934 to provide for a pro-competitive, *de-regulatory* national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and *information technologies* and services to all Americans…" (Senate Report 104-23, "Telecommunications Competition and Deregulation Act of 1995," (S.652) Report of the Committee on Commerce, Science, and Transportation, March 30, 1995.)

The 105th Congress remained true to the policy goal of an unregulated Internet by passing the Internet Tax Freedom Act, (P.L.105-277). The purpose of the act was to "…establish a national policy against Federal and State regulation of Internet access and online services…" (http://thomas.loc.gov/).

It was in the late 1990's that the Internet dramatically matured as both a business and entertainment medium. Technology advancements and user adoption stunned even the most optimistic experts. It was becoming clear that the Internet was revolutionizing the economy and regulations were perhaps the greatest threat to its continued development.

U.S. Treasury Secretary, John Snow and Secretary of Commerce, Donald Evans made the following joint statement July 2003 concerning multiple and discriminatory Internet taxation: "The Internet is an innovative force that opens vast potential economic and social benefits of e-commerce and enables such applications as distance learning, telemedicine, e-business, e-government and precision farming. Government must not slow the rollout of Internet

services by creating administrative barriers…" (http://www.useu.be/).

The result of this regulation-free environment can be seen in recent Department of Commerce data, which shows record online sales. The Census Bureau of the Department of Commerce announced February 2004, that the estimate of U.S. retail e-commerce sales for the fourth quarter of 2003, was $17.2 billion, an increase of 25.1 percent from the fourth quarter of 2002. Total e-commerce sales for 2003 were estimated at $54.9 billion, an increase of 26.3 percent from 2002.

CompTIA supports and the goal of minimal regulation of the Internet and its services and strongly encourages policymakers to continue to maintain this policy objective because it has been successful. CompTIA believes a policy of limited regulations provided the proper business environment which allowed for the tremendous global adoption of the Internet. We urge the Commission to maintain these successful policies. We also agree with Chairman Powell's statement that "the Internet telephony industry should evolve in a regulation-free zone" because this policy is successful and will allow this VOIP services to grow. (http://dc.internet.com/news/article.php/3114491).

Regulatory Viewpoint- A New Framework is Needed to Keep Up with Current Technology:

The protocols upon which VOIP reside are more than simple voice technology. At its core, the technology and protocols behind VOIP are about network efficiencies and enhanced software applications. It is about a dramatic transformation from a closed century-old, copper-analog telecommunications network, to ubiquitous, open, and digital networks designed to communicate voice, video, and data from multiple platforms, either mobile or fixed. It is about telephones becoming computers and computer becoming telephones.

As the technologies and markets come together, regulations seem to be on a collision course. The fundamental problem with the VOIP NPRM is that it begs the question of applying century old regulations to today's evolving technology simply because it offers voice. CompTIA believes that voice has traditionally been regulated because, until recently, providers have historically been natural monopolies. It was not because "voice services" inherently needed to

be regulated, rather "natural monopolies" warranted such polices. As long as VOIP services remain competitive, we believe regulation is unwarranted.

While CompTIA believes the Commission should use this NPRM to develop a new and more holistic policy framework, we recognize that the two significant VOIP petitions (*AT&T's Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges* and *Pulver.Com's Free World Dialup*) have been ruled upon using the legacy telecommunications framework model. Therefore, CompTIA feels reluctantly compelled to provide comments within this context, despite our strong conviction that this policy framework is antiquated.

1996 Telecommunications Act – Not Intended for Competitive IP Services:

CompTIA believes that the Telecommunications Act of 1996, and Title II regulatory authority were intended for, and appropriately address the remains of industrial age powers developed a century ago. "At the time Congress passed the 1934 Act… AT&T was the sole provider of long distance service, was the primary manufacturer of communications equipment, and owned the Bell Operating Companies, which provided most of the local telephone service in the country…. To address these needs, the Congress passed the 1934 Act, [and] title II establish[ing] regulations for all `common carriers' (providers of telephone services)…" (Senate Report 104-23, 1995).

The 1996 rewrite of the "Communications Act of 1934," although relatively recent, was primarily about resolving the U.S. Department of Justice antitrust lawsuit against then, AT&T which consisted of both local and long distance services. The case was settled by Judge Harold Greene through a Modified Final Judgment (MFJ) consent decree on 1984. The 1996 Act was written with the primary purpose of ending what had by default become "judicial regulation." It was also expected that the 1996 Act would become a vehicle for competition in all telecommunications market, particularly local.

In both the Senate and House Committee reports accompanying the 1996 Telecommunications Act, the need for the law was well articulated. United States Senate Report 104-23,

"Telecommunications Competition and Deregulation Act of 1995, Report of the Committee on Commerce, Science, and Transportation on S. 652:

> *"Background and Needs, a. Historical Background... In 1982, the Department of Justice (DOJ) settled an antitrust case against AT&T. Under the agreement, AT&T agreed to spin off its local telephone companies in exchange for maintaining its equipment and long distance businesses…. These restrictions were imposed out of concern that the Bell Operating Companies would use their monopoly over local telephone service to harm consumers and gain an unfair advantage over competitors in the long distance, manufacturing, and information services markets."*

House of Representatives Committee Report 104-204, "Communications Act of 1995" July 24, 1995, *from* the Committee on Commerce*:*

> *"Background and Need for Legislation: In 1974, the U.S. Department of Justice brought an antitrust lawsuit against the then-integrated AT&T.… The suit was ultimately settled in 1982. Pursuant to the settlement, otherwise known as the Modification of the Final Judgment (MFJ)…. In the overwhelming majority of markets today, because of their government-sanctioned-monopoly status, local providers maintain bottleneck control over the essential facilities needed for the provision of local telephone service…. The inability of other service providers to gain access to the local telephone companies' equipment inhibits competition that could otherwise develop in the local exchange market."*

CompTIA is extremely concerned that future Commission policy will use as the underlying foundation an antiquated set of regulations designed and written for a copper-wire circuit switched technology provided by regulated monopolies. Given that the Commission has relied on this regulatory model for the past 100 years, CompTIA and its members are concerned that regulating under Title II authority has perhaps become a Commission "reflex." CompTIA encourages the Commission to seriously consider the significant and revolutionary changes of convergence which has taken place in the marketplace. Following this dramatic change, we

propose that the Commission must develop an equally significant change in its regulatory framework and approach to IP enabled services.

Internet Policy Should Not be Developed in a Piecemeal Fashion:

CompTIA believes the first step in regulatory sobriety is reexamining the need to regulate all voice services. We understand the Commission's declaratory ruling in the AT&T "Phone-to-Phone" petition was essentially based on the commission view that AT&T's service lacked "enhanced" features and therefore should be regulated as a telecommunications service.

CompTIA can not ignore the fact that the ruling contradicts the stated intention of the Commission not to develop policy in a piecemeal fashion. Further, regulating a single IP-enabled application will have a profoundly negative impact on all IP-enabled applications, and will create a *de facto* piecemeal approach to Internet policy.

As a matter of background it is useful to reexamine the *1998 Stevens Report,* which stated that the Commission refrained from a final decision on phone-to-phone because it did "not believe it is appropriate to make any definitive pronouncements in the absence of a more complete record…" More recently, the Chairman Powell announced the formation of an *Internet Policy Working Group* to address VOIP issues, such as phone-to-phone.

As stated in a December 1, 2003, media release: "Chairman Michael K. Powell Announces Formation of Internet Policy Working Group; [b]y forming this Working Group, we hope to gain a greater understanding of how policy-makers can create rational policies to encourage growth in Internet services." Clearly, the creation of the above mentioned working group was to develop a greater understanding of VOIP from several aspects. Wisely, the Commission does not typically engage in the practice of formulating policy in the absence of a complete record.

On February 12, 2004, through the adoption of this very NPRM, the FCC was undertaking a formal policy proceeding consistent in developing a complete record, with input from industry and the public at-large. It is therefore puzzling to CompTIA how the Commission ruled in such

a fashion on April 14, 2004, in the AT&T phone-to-phone petition on a critical portion of VOIP policy, lacking a more complete record

CompTIA is hopeful that VOIP policy developed by the Commission will be based on a complete record and in a comprehensive fashion. The matter before the Commission will have a profound and far reaching impact on the growth of the Internet and the national economy for years to come.

The Camel's Nose has Entered the Tent:

CompTIA believes the Commission's decision in the AT&T phone-to-phone order was problematic, because classifying any IP based protocol application is flawed for the following reasons:

1) The Commission has set a precedent by regulating an IP based service: Now that the Commission has given the go-ahead to regulate packet-switched technology, CompTIA is concerned that the Commission has set a precedent that IP based applications will be regulated. Currently, IP based applications are publicly available which provide two-way voice combined with data and or video, but are not considered VOIP services. These IP applications (i.e. real-time web collaboration, web-casting or video conferencing) and have been available for several years and are widely used. CompTIA is concerned that the AT&T decision has created the prospect that both existing and future IP applications could be regulated by the Commission, and or subject to a case by case review to determine separately each services' regulatory status.

Such an outcome would amount to an IP application regulatory regime that would be catastrophic and dramatically stifle IT innovation, investment, and growth. Further, CompTIA believes there is no compelling reason to establish such a regulatory model given the robust state of IT competition.

2) Old Definitions for New Services Creating Market Uncertainty: CompTIA believes the "enhanced vs. basic" model has become strained given the complexity and breath of new

technologies currently on the market. With new services continually emerging, these definitions are even further challenged. In using the enhanced vs. basic model, the Commission has begun to head down a road of regulating IP services on a case by case basis.

Developers will now have to decide if their technology can pass these somewhat loosely defined definitions. CompTIA believes it is poor policy to create such regulatory barriers and a criteria "subject to interpretation" for defining new technologies and services. CompTIA believes that investment in new technology and emerging services will be discouraged and the markets will in general react poorly to the uncertainly created by such an ad hoc regulatory regime.

We agree with the rational articulated in the Commissions Pulver.com order:

> "W*e declare Pulver.com's Free World Dialup (FWD) offering to be an unregulated information service subject to the Commission's jurisdiction. In so doing, we remove any regulatory uncertainty that has surrounded Internet applications such as FWD.… This action is designed to bring a measure of regulatory stability to the marketplace and therefore remove barriers to investment and deployment of Internet applications and services.*

CompTIA urges the Commission to apply this principle to all VOIP services so that providers may bring the benefits of IP-based services to American consumers.

3) Discourages VOIP Migration: The Commission has created a policy which discouraged transition from legacy circuit switched to IP based networks. Transition to a pure VOIP network will occur over time. There will continue to be the need to integrate legacy networks with VOIP services. By subjecting this new technology to unnecessary regulation, the Commission has created a significant barrier for providers planning to migrate from legacy networks to an IP based network. This will slow deployment and reduce competitive entrants into the VOIP market.

4) Potential Privacy Concerns: The Commission has invited the inspection of packets traveling across the Internet. CompTIA remains guarded about the method that will be used to meter packets. Further we are uncertain if voice packets combined with data or video will also be metered, and if so what safeguards will be implemented to protect consumer privacy. CompTIA is concerned that the Commission has invited potential privacy concerns regarding this emerging technology. Further, such policies could harm adoption of this service.

5) Breathing New Life into Failed and Antiquated Policy: The Commission continues to support an outdated subsidy regime by subjecting VOIP to a broken system of inter-carrier compensation. By asserting that access charges should be assessed, the Commission is adopting for the 21st Century, antiquated industrial age subsidy policies. Inherent in the AT&T phone-to-phone order is the continuation of a policy designed before the Internet was popularized. Legacy inter-carrier compensation policies are about sustaining legacy networks. The Commission should instead be looking at ways to deploy more efficient IP base networks instead of discouraging their deployment.

VOIP is an Enhanced Information Service:

Again, CompTIA reluctantly feels compelled to comment within this framework, because the Commission has used it in the AT&T phone-to-phone and Pulver.com orders. Nevertheless we believe the basic and enhanced definitions are bricks from the 100 year-old industrial-age telecommunications regulatory structure designed for monopoly markets -- not for competitive IP technologies.

CompTIA believes that all VOIP services are enhanced information services. CompTIA believes a clear case can be made to classify all VOIP services as enhanced applications. VOIP service providers process data, convert it from one form to another, add protocol information, process protocols, and perform a multitude of other functions that constitute an enhanced service. VOIP applications involve the addition, deletion, and processing of information.

CompTIA believes the basis for classifying all VOIP services as enhanced services, was articulated *In the Matter of Implementation of the Non-Accounting,* CC Docket No. 96-149, when the Commission ruled that:

> *"104. We further conclude that, subject to the exceptions discussed below, protocol processing services constitute information services under the 1996 Act. We reject…[the]argument that "information services" only refers to services that transform or process the content of information transmitted by an end-user, because we agree…that the statutory definition makes no reference to the term "content," but requires only that an information service transform or process "information." We also agree…that an end-to-end protocol conversion service that enables an end-user to send information into a network in one protocol and have it exit the network in a different protocol clearly "transforms" user information. We further find that other types of protocol processing services that interpret and react to protocol information associated with the transmission of end-user content clearly "process" such information. Therefore, we conclude that both protocol conversion and protocol processing services are information services under the 1996 Act. 105. This interpretation is consistent with the Commission's existing practice of treating end-to-end protocol processing services as enhanced services. We find no reason to depart from this practice, particularly in light of Congress's deregulatory intent in enacting the 1996 Act."*

The Commission stated that "information services" do not merely refer to "services that transform or process the content of the information transmitted by the end-user," but rather that "the statutory definition makes no reference to the term `content,' but requires only that an information service transform or process 'information'." Therefore, even if the message received has the same meaning to the end user as was intended by the sender, the underlying process could still be considered an information service, so long as the data is processed in some fashion between the sender and receiver.

VOIP service providers, process data, convert it from one form to another, add protocol information, process protocols, and perform a multitude of other functions that constitute an

enhanced service. VOIP applications fit within the definition of enhanced service established by the Commission. The processing performed on voice transmissions carried over the Internet is different from that of conventional switched voice systems and from common carrier data transmission services that have been held to be "basic" services.

All VOIP applications, packet and add protocols making this an enhanced service. As noted above, the Commission has generally held such protocol processing to be “enhanced.” VOIP services packet data and add protocol data, then release it for transmission. Therefore, VOIP applications involve the addition, deletion, and processing of information.

VOIP applications also employ storage of data. At the transmission end, data is stored during the transmitter recording process, and again briefly during the encoding and compression processes. Incoming data at the receiver's end is stored for a period of time in a jitter buffer. The purpose of this storage is to properly order the information and wait for late-arriving packets. This is an important quality of service feature, essential to all VOIP applications.

Voice reconstruction in a VOIP application further support the argument that it is an enhanced service. These technologically advanced replications features are incorporated into VOIP applications provided over IP networks (i.e. LANs and WANs). The typical IP voice error detection and correction system uses retrieval of stored data and creates new data to enhance the communication. This process of error correction not only processes and transforms the information, it also retrieves stored information and adds new content. The end product is not the exact data transmitted, but rather portions of information that have been created by the system.

The origin of defining basic and enhanced services comes out of the need to safeguard data-based services from being charged access fees for their traffic. Although, we believe the above argument is valid for defining all VOIP services as enhanced, it appears clear that these two definitions have become strained given the complexity of the current technologies.

Achieving Social Policy Goals

Maintaining social policy goals, which have traditionally been required of telecommunications providers, including emergency services, universal service, and disability access, can be achieved through VOIP services. However, VOIP services do not need to be subjected to Title II - common carrier regulations in order to meet these goals. In fact, CompTIA believes all of the above mentioned goals would dramatically benefit from the enhanced capabilities and controls offered through VOIP services; and that the inherent VOIP network efficiencies would allow for greater flexibility toward these goals. CompTIA believes applying antiquated rules and regulations which have long been challenged on the basis of effectively achieving their goal, would only add cost and hinder deployment.

CompTIA believes VOIP services are the next generation of communications services and as such will fuel the means to achieve social policy goals. If this new technology is burdened with compliance to defeated century-old regulation, VOIP services will be restricted and as such the development of this market to yield social benefits. Unlike legacy telecommunications markets which adopted social policy goals as a quid-pro-quo for monopoly privileges, VOIP services are completely difference in every aspect from legacy services and therefore regulators should also develop new models for achieving these goals.

IP Emergency 911 Service: CompTIA realizes the importance and challenges of integrating legacy emergency 911 services into current VOIP services. CompTIA recognizes the efforts currently underway with the National Emergency Number Association (NENA) and many VOIP providers to address these issues. CompTIA holds great promise that not only will current issues be satisfied, but as the technology matures, IP emergency 911 services will offer significantly enhanced features and controls that both first responders and citizens will value. CompTIA recognizes the important efforts of NENA and supports their collaboration with industry to develop a national blueprint to ensure our 911 system is fully integrated into the Internet.

Disability Access: CompTIA strongly believes that individuals who have disabilities should have full access to the range of developing technologies. While VOIP services have not fully matured, VOIP technology old great potential to assist people with disabilities given time to develop these solutions. Given the enhanced nature of IP applications, CompTIA expects VOIP

services will ultimately be able to offer far greater functionality than the traditional legacy systems.

For example, one VOIP service provider has just released a program that, when loaded onto the phone server, immediately allows access to much of the phone functionality by people who are visually impaired. And this is done without any changes to the phones. With small changes to the phone software itself, full access could be gained. Other VOIP services providers are currently working on a technique which would allow every phone in an organization to be instantly capable of text communication (with and without voice carryover) by simply installing a software program in the call manager. A hearing impaired person could then walk up to any number of telephones in an organization and communicate via text (or text and voice), without needing any special equipment. These are just two examples. There are software features that can address the broad range of disabilities.

Universal Service Fund (USF): CompTIA strongly supports the goal of universal service as a matter of public interest as well as a matter of technology adoption. CompTIA believes access to technology is itself a worthy social goal. Also, CompTIA recognizes the increased value to the service when the technology is ubiquitous. True organizational productivity gains and efficiencies are realized once the technology is widely available. For example, the very first person to implement facsimile technology had very limited value for the service, because there was no one else to send a facsimile. Once facsimiles became ubiquitous, the technology inherently gained value. We believe VOIP services share these common technology adoption principles.

However, like other legacy telecommunications policies, CompTIA supports the goal associated with the USF, but recognizes that current regulatory program to achieve that goal is broken and must be reformed. CompTIA believes any attempt simply to include VOIP services in the current mechanism would be harmful not only to VOIP providers, but consumers reliant on the USF for affordable service. Because VOIP services are inherently more efficient than legacy telecommunications services, the Commission should explore ways to accelerate deployment to rural and under served consumers rather than expand the currently failed USF system.

Inter-carriers Compensation: Much has been written and said about inter-carrier compensation reform; unfortunately, little progress has been made. While most industry experts agree that Central Office Bill and Keep (COBAK) model is the most equitable and less burdensome, for the purposes of the NPRM, CompTIA is less concerned about the final details of the separate Inter-Carrier Compensation rule making, and more concerned that this legacy telecommunications problem not be imposed upon emerging VOIP services.

CALEA: CompTIA will not address CALEA in our comments. CompTIA has joined a broad coalition managed by the Center for Democracy and Technology, which have filed separate comments specifically concerning CALEA.

Broadband Deployment and the Economy:

VOIP demand will drive broadband demand. Broadband demand will continue to accelerate growth in overall IT industry. According to the Alexis de Tocqueville Institution: "It is likely that by 2008, VOIP applications will become the overall leader within the Internet IT purchases category." While an estimated 85 percent of U.S. homes currently are capable of receiving broadband Internet access, only about 20 percent of all U.S. homes subscribe. Because VOIP services require a broadband connection to achieve the necessary speed and continuously on connection, VOIP provides consumers with the incentive to subscribe to broadband.

CompTIA agrees with Chairman Powell that: "today, Internet applications are bringing new competition to old markets and, in turn, ushering in an era of innovation, lower prices and high quality of services. Just as email and e-commerce were drivers of the narrowband Internet, higher bandwidth applications like streaming video and music entertainment, home networking and Internet voice will be the "killer apps" for broadband. Whether we are talking about Internet voice services, or Internet video and audio services, Internet news services, or Internet commerce, the broadband revolution is bringing tomorrow's communication and commerce tools to more and more Americans today." (Chairman Michael Powell, testimony, Tuesday, February 24, 2004, **"**Voice Over Internet Protocol" hearing Senate Commerce, Science, and

Transportation Committee)

Broadband is also more affordable using a VOIP broadband package when subscribing. Considering that a monthly subscriptions combined with broadband service cost about the same as a single legacy telephone and narrowband Internet service. VOIP penetration drives broadband adoption, which in turn promotes broadband deployment – a win-win scenario.

According to a 2004 Juniper Research report, the "VOIP market will become the key revenue generator for broadband service providers by 2009, contributing to an overall value-added services market of $47 billion. This will be in addition to the $43 billion spent on broadband access in the same period."

This merging of voice and data networks is driving what eventually will be a multibillion-dollar transition in the voice telecom infrastructure. While VOIP is a fraction of the U.S. telecom industry, it is growing rapidly. Total equipment purchases of VOIP gateways, softswitches such as IP PBXs and VOIP application servers are expected to reach almost $12 billion by 2006, according to a "Business 02" news report (http://www.business2.com).

Equally important, the Economy will be favorably impacted by VOIP' on the $500 billion market for voice services. In some deployments, VOIP has reduced business voice services costs by 85%. Companies small and large will have increased efficiencies. In many cases, reduced costs for business operations will either increase their ability to invest or reduce business debt, according to the Alexis de Tocqueville Institution. Further, according to a recent Lehman Brothers report suggested that by 2007 investment in information technology will allow for productivity gains that will bring $140 billion in savings to six major economic sectors. As these businesses spur economic and job growth through investment in broadband Internet services and applications, we are seeing durable productivity gains spreading throughout our economy.

Competitive VOIP Services Should be Regulatory-Free:

CompTIA strongly supports allowing VOIP services to develop in a competitive and unregulated environment. However, we believe it is necessary to emphasize the term "competitive" and further emphasize that should entrants into the VOIP market leverage existing legacy telecommunications monopoly influence and begin to restrict competition, the Commission has the ability to review and consider remedies.

VOIP is a Catalyst of Voice Competition: Regulation is not necessary because currently VOIP services are highly competitive. Relative to legacy telephony, entry barriers are very low, competition robust, with quality service and affordable pricing. VOIP is being offered through various models and at varying prices to both residential and business consumers.

In a very short time frame (relative to legacy telecommunications) VOIP has developed as a competitive market. VOIP markets currently do not consist of entrenched monopolies with market bottlenecks and captive rate payers. Current VOIP markets are emerging in a competitive environment and as long as these market forces are maintained, the Commission should refrain from regulating these services as legacy telecommunications carriers.

The Commission has heard from several providers and is familiar with the different platforms from which VOIP services can be offered: phone or computer based or a combination of the two. Additionally, VOIP services are offered through a number of difference network platforms. Should network access be restricted, and delivery of service limited, again the Commission has the ability to review and consider remedies.

Pricing is equally diverse depending upon the customer's choice of service. Current, broadband VOIP packages can be below the cost of traditional legacy telephone service and narrowband subscriptions rates. A typical consumer has the choice of several VOIP providers and type of service which best suites their budget and needs. According to recent news reports, one of the more notable VOIP providers recently cut prices by 14%. This type of customer price and

service choice is extraordinary given the fact that after more than 100 years of government regulation, most consumers only recently had any choice at all of local phone service.

Negative Impact on Small Business: Additionally, VOIP services extend beyond traditional telecommunications providers to the IT industry. In addition to the many larger companies which are well known in the IT industry, there are thousands of small and medium sized IT companies. In aggregate, these companies constitute a large percentage of IT sales. Given the complexity of the VOIP models and evolving technology, it is unclear which segments of the IT channel would be subject to regulations and the economic impact it would have on many small and medium sized business.

There is significant uncertainly which models will emerge and which IP applications will be subject to regulation. For example, IP application currently available include two-way voice are integrated data but are not considered VOIP services. Will this and other IP applications be regulated as telecommunications services? Current IT markets have not traditionally been regulated as telecommunications services, and such a dramatic policy shift would have a tremendously negative impact on this segment of the economy – large, medium, and small businesses alike. There are many questions which remain unanswered in terms of deployment, and even greater uncertainly as to which service may or may not fall into a regulatory trap. Given the evolving state and diversity of industry segments with a stake in the success of VOIP service markets, CompTIA believes the Commission should allow these services to develop as enhanced information services, in a deregulatory fashion.

Conclusion: CompTIA believes the Commission should recognize the significant industry convergence which is occurring between IT and telecommunications sectors and develop a relevant policy framework. The Commission's policy of regulatory restraint for the Internet has been successful. We urge the Commission to define all VOIP services as enhanced information services, and therefore a deregulated service. We urge the Commission not to regulate IP-enabled services in a piecemeal fashion. Regulating a single IP-enabled application will have a profoundly negative impact on all IP-enabled applications. We look forward to achieving social policy objectives without unnecessary regulations. Finally, CompTIA believes it is in the

interest of the both consumer and the economy to allow this revolutionary technology called the Internet to continue to grow and yield benefits to our society.